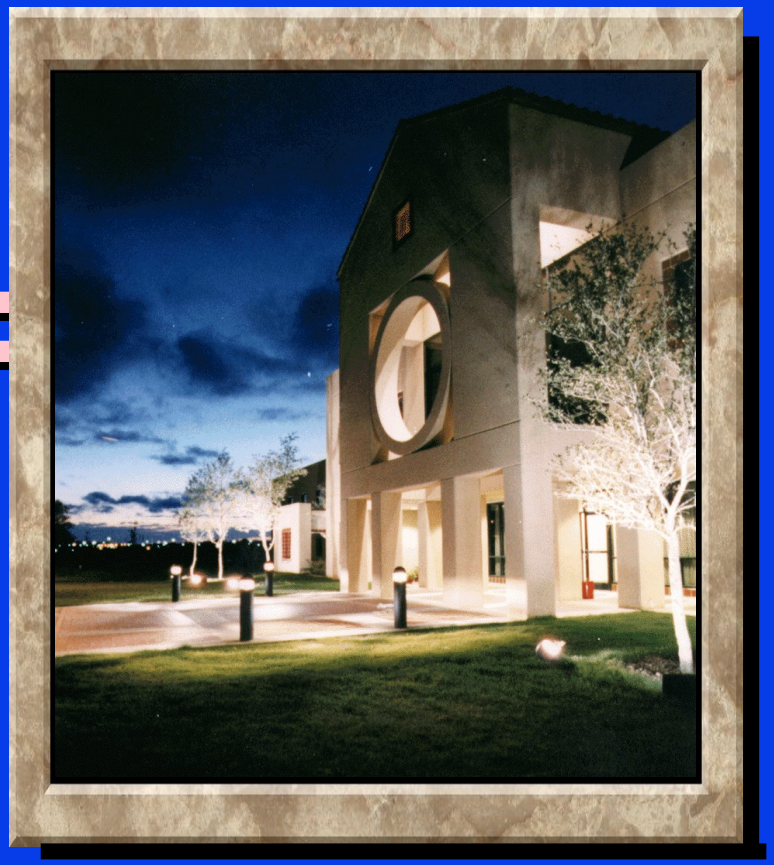
AFCEE



EPA Munitions Rule
DoD Range Rule
UneXploded Ordnance (UXO

Range Classifications

- Active = Currently in use
- Inactive = Not currently in use but could be in the future (reserve range)
- Closed = Not in use and current use is not compatible with range operations (housing or hospital built over an old range)
- Transferring = Proposed to be leased or transferred to another entity including other Federal entities (BRAC)
- Transferred = A range area that has been released from military control (Formerly Used Defense Sites -- FUDS)

EPA's Military Munitions Rule

- Published 12 Feb 97
- Effective 12 Aug 97
- Defines when unused and used military munitions become a waste
- Provides storage and transportation standards
- Provides emergency response standards
- DoD Implementation Policy published in July 98
- States can implement more stringent requirements!

EPA's Military Munitions Rule

- Postponed final action on munitions left on closed and transferred ranges until the DoD Range Rule is issued
- The originally proposed provision would have identified munitions left on closed and transferred ranges as meeting the statutory definition of a solid waste and potentially subject to RCRA corrective action
- If DoD fails to proceed with the Range Rule or if the Range Rule does not adequately protect human health and the environment, EPA will address the issue

DoD's Range Rule

- DoD published a draft Range Rule on 26 Sep 1997
  - Applies only to Closed, Transferring, and Transferred (CTT) ranges
  - Army Environmental Center has lead for development
  - Proposed a 5-step CERCLA-like process
  - Over 250 pages of comments were received on draft
  - Final Range Rule was originally expected out in Fall 1998
  - Final Range Rule now expected August 2000 ???
  - Latest draft Range Rule completed by DoD on 7 Oct 99
- DoD is developing a Range Rule Risk Methodology (R^3M) to help prioritize and drive decisions regarding range cleanups
  - Army Environmental Center has lead
  - Current version too complex according to regulators
  - Interim R^3M guidance expected August 2000 ???

DoD's Range Rule

- Proposes a 7 step CERCLA-like process
  1. Range Inventory and Prioritization
  2. Preliminary Assessment / Site Inspection
  3. Accelerated Response
  4. Remedial Investigation / Feasibility Study
  5. Remedial Design / Remedial Action
  6. Recurring Review
  7. Administrative Close-out

DoD's Range Rule

1. **Range Inventory and Prioritization**
   - Develop a list of all closed, transferred, and transferring ranges
   - Create a central inventory database to track status
   - 11 primary factors and 3 modifying factors will be used to assign a relative priority to each range
   - Range inventory database will be publicly available
2. **Preliminary Assessment / Site Inspection**
   - Originally called "Range Assessment" in the 26 Sep 97 version
   - Determine condition of property / delineate range areas
   - PA/SI Report: "No Further Action" or "AR" or "Conduct RI/FS"
   - Establish an Administrative Record
   - Public and Government Involvement:
     - Notify State, local governments, and public before beginning PA/SI at a range
     - Conduct interviews, hold RAB meetings, educate the public
     - Solicit comments and hold public meetings on draft PA/SI report
     - DoD component must seek concurrence on a "No Further Action"

DoD's Range Rule

❸ Accelerated Response (AR)

- **ARs can include: Posting Signs, Erecting Fences, Erosion Control, Source Removals, Surface Sweeps, Deed Restrictions, Monitoring Program, etc.**
- **For ARs that occur within 6 months (time critical actions):**
  - **Develop a Decision Memorandum (1-2 page summary)**
  - **Solicit comments and hold public meetings on draft Decision Memorandum**
  - **Conduct the AR**
  - **Prepare a AR Completion Report**
  - **DoD component must seek concurrence on a "No Further Action" or a "TI"**
- **For ARs that occur after 6 months:**
  - **Develop an Engineering Evaluation/Cost Analysis (EE/CA) Report**
  - **Solicit comments and hold public meetings on draft EE/CA**
  - **Develop a Decision Memorandum**
  - **DoD component must seek concurrence on Decision Memorandum**
  - **Conduct the AR and prepare an AR Completion Report**
  - **DoD component must seek concurrence on a "No Further Action" or a "TI"**
- **AR Completion Report: "No Further Action" or "TI" or "Conduct RI/FS"**

DoD's Range Rule

❹ Remedial Investigation / Feasibility Study

- Originally called "Range Evaluation/Site-Specific Response Evaluation" in the 26 Sep 97 version
- Detailed Characterization / Develop, Evaluate, and Select Alternatives
- Conduct a Range Risk Assessment
- RI/FS Report: "Implement Responses" or "Recurring Reviews" or "TI"
- Public and Government Involvement:
  - Notify State, local governments, and public before beginning RI/FS at a range
  - Conduct interviews, hold RAB meetings, educate the public
  - Solicit comments and hold public meetings on draft RI/FS report
  - Develop a formal Decision Document
  - DoD component must seek concurrence on the Decision Document

❺ Remedial Design / Remedial Action

- Originally called "Site-Specific Response Implementation" in the 26 Sep 97 Version
- Response Implementation Plan / Conduct the Response
- Hold public meetings and provide periodic updates on the status

DoD's Range Rule

⑥ Recurring Reviews

- Year 3, Year 7, and at 5-year intervals after that (can be shorter)
- Determine if the response actions continue to
  - Minimize explosives safety risks
  - Protect human health and environment
- Opportunity for assessing a new technology
- Public and Government Involvement:
  - Solicit comments and hold public meetings on draft Recurring Review Report
  - DoD component must seek concurrence on the Recurring Review Report

⑦ Administrative Closeout

- Demonstrate minimal risk, met objectives, operating as designed
- Develop a Range Closeout Decision Document
- Public and Government Involvement:
  - Solicit comments and hold public meetings on draft Range Closeout DD
  - DoD component must seek concurrence on the Range Closeout DD
- DoD's has continuing obligations (emergency response or detailed)

DoD's Range Rule

- **Range Rule Issues**
  - **Response Authorities -- *EPA wants oversight***
  - **AF/ILEV Planned UXO Expenditures ($200 M in 5 years)**
    - **FY 01: $0.8 M**
    - **FY 02: $12.5 M**
    - **FY 03: $31.8 M**
    - **FY 04: $47.9 M**
    - **FY 05: $101.0 M**
  - **Technology Needs**
    - **No silver bullet technology available**
    - **Risk assessment methods and protocols (health / safety / eco)**
    - **Detection / Characterization / Identification**
    - **Natural attenuation of range risk**

DoD's Range Rule

- **More Range Rule Issues**
  - Cleanup Goals / Risk Methodology
    - What depth? How clean is clean? Residual Risk?
  - EPA can issue their own Range Rule
    - State RCRA Regulatory Authority
  - Funding
    - What pot of money? When?
  - Range Rule does NOT apply to:
    - Active and Inactive Ranges
    - CTT Ranges in which UXO investigations or response actions are underway
    - Airspace (land and water) where munitions have not been used
  - No certification requirements for UXO contractors
  - No training requirements for UXO workers

Range/UXO Cleanup Technology & Needs

- Magnetometers
- Electromagnetometers
- Synthetic Aperture Radar (cart, aircraft, or helicopter mounted)
- Neutron Assay / Ion-Mobility
- Advanced Detectors
- Data Collection
- Global Positioning / GIS
- Anomaly Processing and Visualization Software
- Scrap Processing
- Vegetation Control

- NO SILVER BULLET TECHNOLOGY !!!
- LABOR INTENSIVE, SLOW, & COSTLY !!!

EPA's Concerns at CTT Ranges

- Lack of site-specific information in making decisions
- Use of statistical grid sampling methods
  - Can underestimate the amount of ordnance present
- DoD is not applying the best available technologies
  - Still using "mag & flag"
    - No permanent record of anomalies detected or responses
    - Subjective (not reproducible)
    - Depth Limitations
- UXO investigations are limited to within "fenceline"

EPA's Concerns at CTT Ranges

- DoD is not following the DoD Explosives Safety Board's standards for depth of clearance in all cases
- Poor communication of UXO activities to public and regulators
- Over-reliance on institutional controls as the only remedy to ensure protectiveness
  - Fencing, Signs, Guards, Patrols, etc.
  - Perform periodic inspections for "surfaced" UXO
- DoD should retain ownership/control of lands not properly assessed or cleaned up

EPA/DoD UXO Working Groups

- Currently 13 EPA/DoD Range Rule Working Groups
  - Characterization of Properties
  - Time Critical Response Actions
  - Range Rule Risk Methodology
  - Communications with the Public and Regulators
  - Effective Oversight
  - Standards for Depth Clearance
  - Application of EPA Regulations to UXO
  - Technology
  - Use of Institutional Controls
  - Federal-to-Federal Transfers
  - Funding
  - Retention of Land Until Protective Response is Complete
  - Other Constituent Hazards

EPA/DoD UXO Technology Working Group

- EPA/DoD UXO Technology Working Group
  - Establish common definitions and metrics to measure UXO technology performance
  - Define the current baseline technology used in UXO work
  - Set guidance/principles for UXO technology demonstration, validation, and implementation
  - Establish methods for communication between EPA and DoD on UXO technologies